

ABSTRACT OF THE DISCLOSURE

A torque distribution control device for a four-wheel drive vehicle is disclosed having a torque distribution device for distributing the drive power transmitted from an engine to either of the front wheels or the rear wheels as prime drive wheels, to other wheels as sub-drive wheels. In the control device, a pre-torque is determined in a feed forward sense based on the vehicle speed, the throttle opening degree and the gear shift step of a transmission. A compensation torque is determined in a feedback sense based on the vehicle speed and the rotational speed difference between the drive wheels and the sub-drive wheels. A torque transmission clutch is controlled based on a command torque which is obtained by the addition of the pre-torque and the compensation torque, so that the command torque is distributed to the sub-drive wheels. In the control device of another embodiment, a pre-torque is determined in a feed forward sense based on the vehicle speed and the throttle opening degree. The pre-torque is compensated based on the throttle opening degree and the acceleration/deceleration of the vehicle. A feedback torque is determined in a feedback sense based on the rotational speed difference between the drive wheels and the sub-drive wheels and the vehicle speed. The pre-torque and the compensation torque are added for a command torque, and a torque transmission clutch is controlled based on the command torque to distribute the same to the sub-drive wheels.